

# Navajo Abandoned Uranium Mine Site Screen Report

*This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits and pits. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites lands not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands but that are or may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.*

*The purpose of the form is to ascertain the status and location of the identified AUM site, to record all immediate site information associated with the mine site and to document the recommendation and/or decision on what additional steps, if any, are needed at the site.*

**Homestake Sapin No. 23**

**Navajo AUM Eastern Region**

**Prepared by:**

**Weston Solutions, Inc.**

**Contract: W91238-06-F-0083**

**12767.063.496.1111**

**May 2009**

**Part I Site Identification, Location and Status****Site Names and ID numbers as applicable****Mine ID:** 355**Map ID:** E63**CERCLIS:** NOT ASSIGNED**NAMLRP:** NOT ASSIGNED**New Mexico Mining and Mineral Division ID:** NM0015**New Mexico Bureau of Geology and Mineral Resources:** NMMK0208**Local name / Aliases:** Section 23**New Mexico MMD District:** Ambrosia Lake**Lat/Long:** 35.4304036251 N / -107.87163812 W**Nearby road and highway:** NM-509, Interstate 40**Local Post Office:** Milan, NM**Land Status: check one or more and provide ownership and contact information below**

<b>Tribal Trust Land</b>	<input type="checkbox"/>
<b>Tribal Fee Land</b>	<input type="checkbox"/>
<b>Allotment</b>	<input type="checkbox"/>
<b>Fee land</b>	<input type="checkbox"/>
<b>Public lands</b>	<input type="checkbox"/>
<b>Private</b>	<input checked="" type="checkbox"/>
<b>Bureau of Land Mgmt</b>	<input type="checkbox"/>
<b>State</b>	<input type="checkbox"/>

**Ownership and contact information:**

The mine site property is classified as private land. New Mexico MMD identifies the surface and mineral rights owner as Rio Algom.

## **Part II            Site Observations**

**Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:**

**0 to 200 feet:** None

**200 feet to 0.25 mile:** None

**Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:**

**0 to 200 feet:** None

**200 feet to 0.25 mile:** None

**Levels measured around the perimeter(s) of the identified structure(s):**

None

**Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:**

**0 to 0.25 miles:** Well head with locked cap at north end of site, along fence. Not used for human consumption.

**0.25 miles to 4 miles:** Drinking water access for the Rio Algom Mill

**Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.**

There were three dead trees east of the reclaimed waste pile (fenced in). Readings were approximately 120,000 counts per minute (cpm).

**Known Site History: include information from interviews with Chapter officials and residents.**

**Note information on mine ownership, period of operation, and type of mining operation.**

The Homestake Sapin No. 23 mine consists of a surface area of 435,438.6 square meters with approximately 442,594.54 square meters of underground workings. Any historical information pertaining to mining operations and historical ownership of the mine site appeared to be unclear. The New Mexico Mining and Minerals Division identified the operator from 1956-1957 A Frazier-Davis Construction Co. & Utah Construction Co., who sunk the initial shaft; 1959-1968 as Homestake-Sapin Partners; 1969-1982 as United Nuclear-Homestake Partners; 1978-1980 as Teton Exploration Drilling Co., who sunk vent shafts; and from 1981-1989 as Homestake Mining Co.

### **Part III          Type, number and reclamation status of mine features**

**Provide description and reclamation status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all reclamation caps.**

Reclamation status of the mine site is currently unknown. A covered waste pile was observed north of the dirt road. This waste pile is enclosed by a barb wire fence. Fissures exist on the waste pile due to erosion. The size of the waste pile is approximately 50 feet in diameter, and 20 feet high.

Depressions in the landscape were scattered throughout the site. Two of them were approximately 40'x 16'. The probable cause for these depressions is subsidence.

According to the New Mexico Mining and Mineral division, in August 1991, the buildings, headframe, hoist equipment, IX plant & trash were removed, and the building material was buried on site, the IX plant was disposed at the Grants mill site, the shaft was backfilled & sealed with reinforced concrete, and the shaft and boreholes were backfilled and capped with concrete.

### **Part IV          Summary of radiological readings**

#### **Background Locations**

#1 22,788 cpm

#2 23,788 cpm

#3 16,609 cpm

**Mine site:** Homestake Sapin No. 23

- See Figures 1 and 2

**Nearby Structure Perimeter** – None

#### **Describe any other radiological measurements:**

A total of 5,599 gamma radiation measurements were collected from the mine site, ranging from 12,297 cpm to 301,433 cpm. Reading on the well head was 48,317 cpm. The highest readings detected were primarily in the western part of the site, with the exception of the readings taken at the dead trees (120,000 cpm). The lowest readings recorded as background readings were taken in the depressions, and in a low-lying area (north of main road). The measurements are represented in Figures 1 and 2.

**Part V            Site sketch of all mine features and readings, including locations of all structures, sources of potential drinking water and any other important features and radiological readings.**

Presented in Figures 1 and 2

## **Part VI        Response Action Summary**

**Site Name(s):** Homestake Sapin No. 23        **New Mexico MMD District:** Ambrosia Lake

### **Decision Criteria**

**Is there an unreclaimed waste pile at the site?** Yes

**At what distance from the waste pile is the nearest residential structure located?** N/A

**At what distances from the waste pile are there potential drinking water sources?** N/A

**Is there a reclamation cap or sealed adit in place at the site?** Yes. There is an enclosed covered waste pile north of the main road.

**Is the cap/seal functionally intact?** Yes.

**Is the cap/seal sufficiently degraded to create a concern about releases?** Yes. Erosion has created fissures along the base of the waste pile.

**At what distance from the cap/seal is the nearest domestic structure located?** Greater than 1 mile

**At what distance from the cap/seal is the nearest potential drinking water source?** N/A

### **Summary of emergency response factors**

None

### **Summary hazard ranking system factors**

None

### **Summary of reclamation factors**

Reclamation status of the mine site is currently unknown. A covered waste pile was observed north of the dirt road. Fissures exist on the waste pile due to erosion. The size of the waste pile is approximately 50 feet in diameter, and 20 feet high. Depressions in the landscape were scattered throughout the site. Two of them were approximately 40'x 16'. The probable cause for these depressions is subsidence.

## Part VII      Photos



Photo 1. Homestake Sapin 23 mine site, towards the east/northeast



Photo 2. Well head at north end of site along fence running north-south



Photo 3. Well head with gate in background (entrance to Homestake Sapin 15), towards the north



Photo 4. Depression where first background reading was taken. View looking south/southwest





Photo 5. Depression approximately 100 yards northeast of car, towards the south/southwest



Photo 6. Depression looking south/southwest, with main road in background



Photo 7. Dead trees east of waste pile, towards the north

**Part VIII      Contacts Reports and Information**Name Terry FletcherTitle or official role (if any) President – Rio Algom Mining LLCTelephone number 505-287-8851, fax 505-285-5550 Terry.Fletcher@bhpbilliton.comInformation provided Granted access to site

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Name Susan A. Lucas KamatTitle or official role (if any) AUM Data Manager – New Mexico Mining & Mineral DivisionTelephone number (505) 476-3408 fx: (505) 476-3408Information provided Background information and findings from 2008 New Mexico MMD  
Survey of mining sites.

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Name Dana BaharTitle or official role (if any) Manager, Superfund Oversight SectionGround Water Quality Bureau, New Mexico Environment DepartmentTelephone number (505) 827-2908Information provided General Background Information

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Name Mary Ann MenetreyTitle or official role (if any) Manager, Mining Environmental Compliance SectionGround Water Quality Bureau, New Mexico Environment DepartmentTelephone number (505) 827-2944Information provided General Background Information

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